(250 ml) is added DMT-Cl (3.3 g). The reaction is stirred for 16 hours. The reaction is added to ice/water/ethyl acetate, the organic layer separated, dried, and concentrated *in vacuo* and the resultant gum chromatographed on silica gel (ethyl acetate-methanol triethylamine) to give the title compound.

EXAMPLE 24

3'-O-[Propyl-(3-phthalimido)]-5'-O-DMT-N6-Benzoyl-adenosine-2'-O-(2-cyanoethyl-N,N-diisopropyl) phosphoramidite

[0161] 3'-*O*-(Propyl-3-phthalimide)-5'-*O*-DMT-N^6-benzoyladenosine is treated with (β-cyanoethoxy)chloro-N,N-diisopropyl)aminophosphane in a manner similar to the procedure of Seela, *et al.*, *Biochemistry* **1987**, *26*, 2233. Chromatography on silica gel (EtOAc/hexane) gives the title compound as a white foam.

EXAMPLE 25

3'-O-(Aminopropyl)-adenosine

[0162] A solution of 3'-*O*-(propyl-3-phthalimide)adenosine (8.8 g, 19 mmol), 95% ethanol (400 mL) and hydrazine (10 mL, 32 mmol) is stirred for 16 hrs at room temperature. The reaction mixture is filtered and filtrate concentrated *in vacuo*. Water (150 mL) is added and acidified with acetic acid to pH 5.0. The aqueous solution is extracted with EtOAc (2 x 30 mL) and the aqueous phase is concentrated *in vacuo* to afford the title compound as a HOAc salt.

EXAMPLE 26

3'-O-[3-(N-trifluoroacetamido)propyl]-adenosine

[0163] A solution of 3'-*O*-(propylamino)adenosine in methanol (50 mL) and triethylamine (15 mL, 108 mmol) is treated with ethyl trifluoroacetate (18 mL, 151 mmol). The reaction is stirred for 16 hrs and then concentrated *in vacuo* and the resultant gum chromatographed on silica gel (9/1, EtOAc/MeOH) to give the title compound.

EXAMPLE 27

N6-Dibenzoyl-3'-O-[3-(N-trifluoroacetamido)propyl]-adenosine

[0164] 3'-*O*-[3-(N-trifluoroacetamido)propyl]adenosine is treated as per Example 22 using a Jones modification wherein tetrabutylammonium fluoride is utilized in place of ammonia hydroxide in the work up. The crude product is purified using silica gel chromatography (EtOAc/MeOH 1/1) to give the title compound.

EXAMPLE 28

N6-Dibenzoyl-5'-O-DMT-3'-O-[3-(N-trifluoroacetamido)propyl]-adenosine

[0165] DMT-Cl (3.6 g, 10.0 mmol) is added to a solution of N^6-(dibenzoyl)-3'-*O*-[3-(N-trifluoro-acetamido)propyl)adenosine in pyridine (100 mL) at room temperature and stirred for 16 hrs. The solution is concentrated *in vacuo* and chromatographed on silica gel (EtOAc/TEA 99/1) to give the title compound.

EXAMPLE 29

N6-Dibenzoyl-5'-O-DMT-3'-O-[3-(N-trifluoroacetamido)propyl]-adenosine-2'-O-(2-cyanoethyl-N,N-diisopropyl) phosphoramidite

[0166] A solution of N^6-(dibenzoyl)-5'-*O*-(DMT)-3'-*O*-[3-(N-trifluoroacetamido)propyl]-adenosine in dry CH_2Cl_2 is treated with bis-N,N-diisopropylamino cyanoethyl phosphite (1.1 eqiv) and N,N-diisopropylaminotetrazolide (catalytic amount) at room temperature for 16 hrs. The reaction is concentrated *in vacuo* and chromatographed on silica gel (EtOAc/hexane/TEA 6/4/1) to give the title compound.

EXAMPLE 30

3'-O-(butylphthalimido)-adenosine

[0167] The title compound is prepared as per Example 21, using N-(4-bromobutyl)phthalimide in place of the 1-bromopropane. Chromatography on silica gel (EtOAC-MeOH) gives the title compound. ^{1}H NMR (200 MHZ, DMSO-d_6) δ 5.88 (d, 1H, C_1H).

EXAMPLE 31

N6-Benzoyl-3'-O-(butylphthalimido)-adenosine

[0168] Benzoylation of 3'-*O*-(butylphthalimide)adenosine as per Example 22 gives the title compound.